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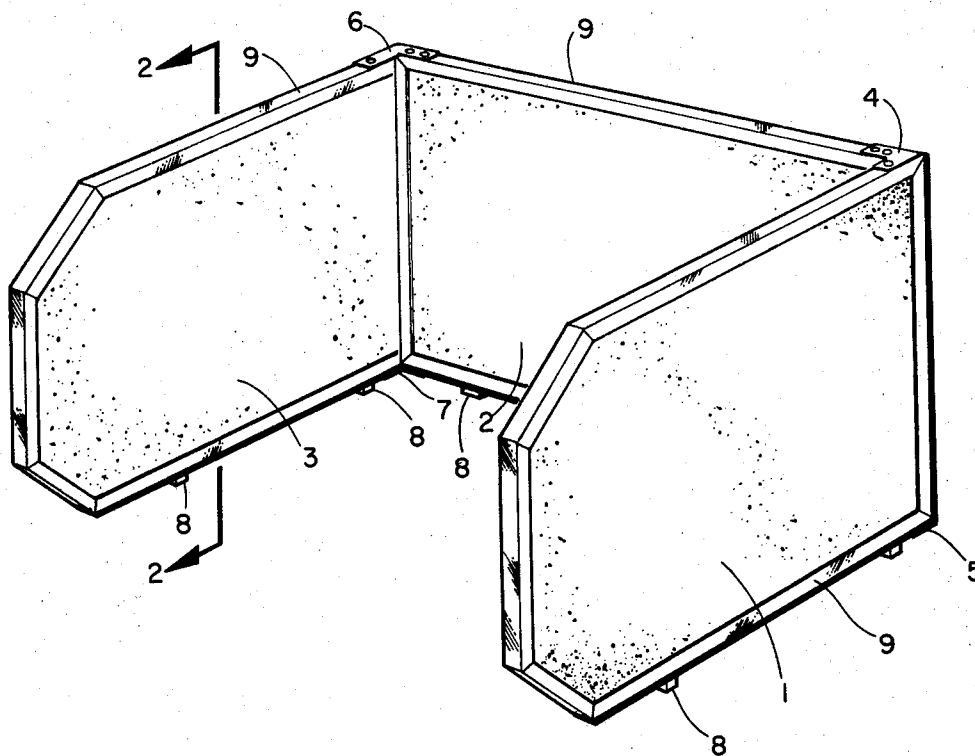
[54] **PORTABLE STUDY STATION**
1 Claim, 5 Drawing Figs.

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160/135, 160/229, 160/351

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E05b 15/26

[50] Field of Search **160/130,**
229, 230, 135, 350, 351, 352, 128, 129, 218, 220,
217; 256/25, 26; 52/69, 70, 71

ABSTRACT: A study enclosure structure having three wall sections which are joined by hinges whereby the wall sections may be erected vertically from a horizontal surface to form a study station comprising three sides of a rectangle or collapsed into a volume of minimal size for storing and transporting.



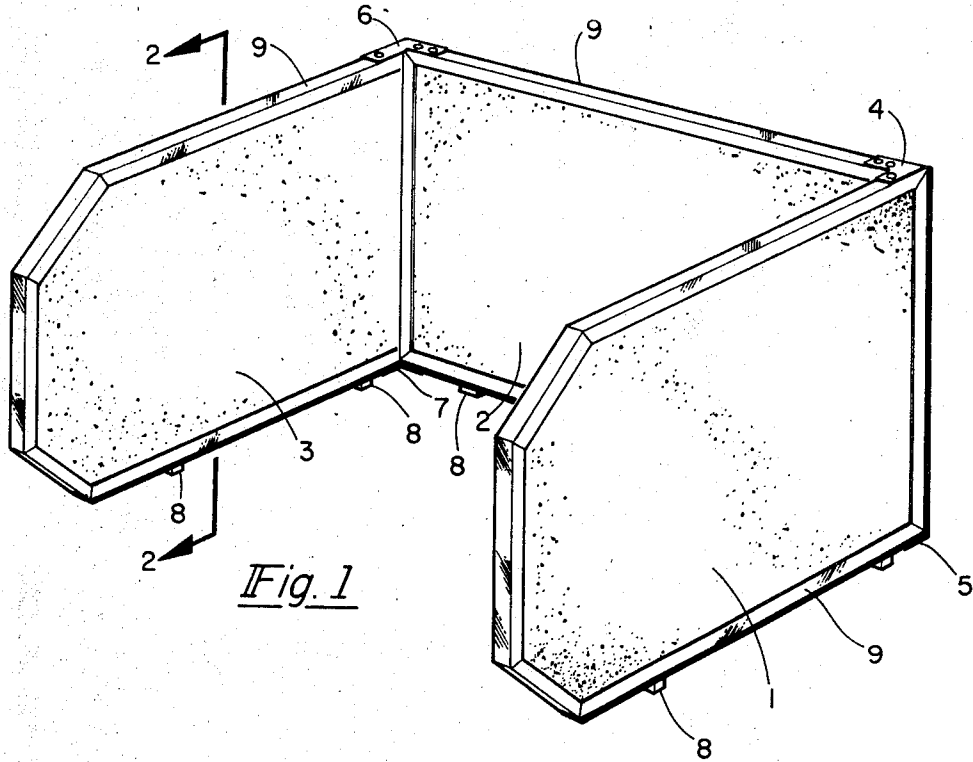


Fig. 1

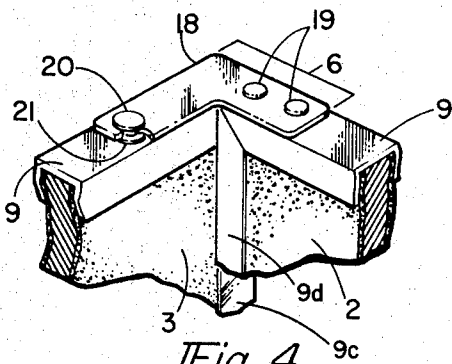


Fig. 4

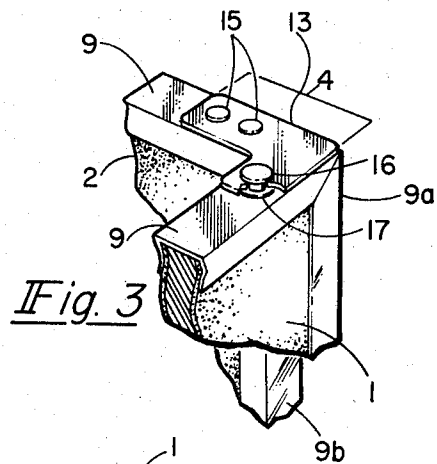


Fig. 3

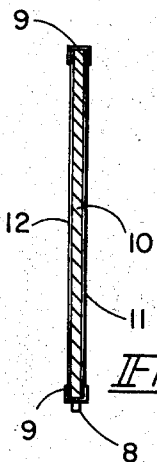


Fig. 2

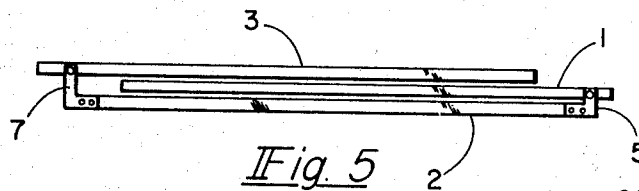


Fig. 5

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PORTABLE STUDY STATION

This invention relates to study stations, or partial enclosures designed to provide individual study areas, and specifically resides in a new and improved portable study station that can be conveniently transported and stored when not in use.

The use of individualized study areas is gaining widespread favor among contemporary educators. Particularly in elementary schools, study stations, or carrels, are rapidly coming into general use for teaching basic reading skills and the like.

In its earliest form, the carrel was a small area or cubicle set aside in the stacks of a library for individual study. The study stations presently contemplated consist of three-sided portable cubicles which may be erected on a table or other horizontal study surface. The student faces into the space circumscribed by the three sides of the enclosure to avoid being distracted by others moving about. The sides of the enclosure are made of a suitable acoustical damping material to suppress distracting sounds which otherwise enter or emanate from the study area.

In a densely populated schoolroom, the use of individual study stations by each of the students serves to greatly reduce the ambient noise level in the room. The simplest form of a multiplicity of study stations consists of a horizontal table with generally rectangular enclosures distributed along the table and permanently attached to the table for rigidity. An obvious disadvantage of this structure is that a considerable amount of valuable classroom space is occupied even when the study stations are not in use, and the table is not available for other purposes.

The use of multiple sided enclosures, which erect vertically from the table and can be removed from the table when not in use, has also been attempted. The problem then becomes one of compactly collapsing the walls for storage in a minimum space when the stations are not in use.

The foregoing disadvantages are some that the invention described herein is designed to overcome.

It is an object of the present invention to provide a portable study station that may be temporarily erected for use in conjunction with an existing classroom table or individual classroom desk.

It is another object of the invention to provide a portable study station wherein the walls conveniently assume predetermined angular relationships when the station is erected for use.

An additional object is that of providing a collapsible study station that may be folded to occupy a minimum amount of space when not in use, and thereby lend itself to being readily transported from place to place.

These and other objects and advantages will appear from the description to follow. In the description, reference is made to the accompanying drawing which forms a part thereof and in which there is shown by way of illustration and not of limitation a preferred embodiment of this invention.

In the drawing:

FIG. 1 is a perspective view of a study station erected for use;

FIG. 2 is a section taken along the plane of line 2-2 in FIG. 1;

FIG. 3 is a partially cut away perspective view of one of a hinge pair joining two of the wall sections;

FIG. 4 is a partially cut away view of one of another hinge pair; and

FIG. 5 is a side view of a study station collapsed for storage.

Referring now to FIG. 1, there are generally shown three side sections 1, 2 and 3 which form the walls of the study station illustrated in an erect and operative position. Side section 1 is attached to section 2 by means of hinges 4 and 5; section 3 is similarly attached to section 2 by means of hinges 6 and 7. As more fully explained hereinafter, the hinges 4, 5, and 6, 7 are positioned such that when the study station is erected for use adjacent side sections 1 and 2, and 2 and 3, form substantially right angles with one another. In use, the study station rests upon a table or other horizontal surface, not shown, contact being made by soft rubber footpads 8.

The side sections 1, 2 and 3 are appropriately sized to circumscribe the work or study area immediately in front of and at the sides of one using the carrel. The student will preferably lean forward into the carrel study area for enhanced privacy. When the side sections 1, 2 and 3 are made from 15 to 20 inches high the desired advantages are achieved.

The construction of sections 1, 2 and 3 is more fully described by reference to FIG. 2. Each of the sections consists of a three-sided box channel frame 9 which is appropriately shaped to conform to the outline configuration selected for sections 1, 2 and 3. The frames 9 support sound-absorbing panels which are preferably comprised of various laminae to provide the necessary degree of structural durability and a acoustical damping in the walls of the study station. It has been found that the illustrated combination of a pad 10 of acoustical suppressing glass or cellulose fibers overlayed at either side by vinyl sheets 11 and 12 makes a very satisfactory panel.

Side section 1 is joined to section 2 by means of identical hinges 4 and 5 which are arranged to permit section 1 to be folded from the approximately right angle position of FIG. 1 to the position shown in FIG. 5 where section 1 is made to immediately overlay section 2. The details of the hinge 4, and the identical associated hinge 5, are shown in FIG. 3 wherein an L-shaped plate 13 is permanently attached by rivets 15 to the frame 9 of section 2, and pivotally attached by a single rivet 16 to frame 9 of section 1. A teflon washer 17 between plate 13 and frame 9 facilitates pivotal motion about the rivet 16, the latter being positioned such as to allow section 1 to be folded immediately adjacent to section 2 with as little separation between the sections as possible. When opened to the erect and operative position of FIG. 1, frame portion 9a of section 1 is made to butt against frame portion 9b of section 2 to position the wall sections near or at a preselected angle such as 90°, as illustrated in the FIGS.

Hinge 6 (FIG. 4), and its identical associated counterpart hinge 7, are arranged to permit section 3 to be folded from its position in FIG. 1 to the position shown in FIG. 5 such that section 3 is made to overlay section 1 when the latter is folded over section 2. Hinge 6 is comprised of an L-shaped plate 18 which is permanently attached by rivets 19 to the frame 9 of section 2 and pivotally attached by a single rivet 20 to frame 9 of section 3. The rivet 20 is positioned such that when the section 3 is folded in an overlaying relationship with section 1 and 2, as shown in FIG. 5, it is spaced from section 2 by the approximate thickness of section 1 and overlays immediately adjacent to section 1. Frame portion 9c of section 3 is made to butt against frame portion 9d of section 2 when the study station is erected to thereby position the wall sections near or at a preselected angle such as the 90° angle illustrated in the FIGS.

The axes of rotation of hinges 4, 5, 6 and 7 are coincident with the symmetry axes of the associated pivotal rivets, e.g. rivets 16 and 20. In the FIGS. the pivotal rivets are illustrated as being in the plane of section 1 and 3, spaced forward from the rear section 2 by appropriate distances such that when sections 1 and 3 are folded onto section 2 (FIG. 5) the necessary separations are maintained. It should also be observed that the pivotal rivets may be located in the plane of section 2, such that when the L-shaped hinge plates (e.g. plates 13 and 18) are permanently fixed to side sections 1 and 3 the side sections may be rotated with the L-shaped hinge plates about their associated pivotal rivets to the overlaying positions shown in FIG. 5. The location of the pivotal rivets in this instance is again dictated by the spacing required to achieve the folded configuration of FIG. 5. In either case, the pivotal rivets are spaced from the abutting surfaces of frame portions 9a and 9b, and 9c and 9d, by distances sufficient to permit the side sections 1 and 3 to be folded to overlay the rear section 2 as illustrated in FIG. 5.

The teflon washers made a part of each of the hinges, such as washers 17 and 21, are placed under compression in the assembled study station by action of their associated rivets, e.g. rivets 16 and 20 associated with washers 17 and 21. This

serves to bind the hinges slightly as the wall sections are folded with respect to one another and causes the wall sections to more effectively retain their relative positions during use.

Various other embodiments of the invention will be apparent from the description herein and it is intended that the invention be limited only by the scope of the following claims.

We claim:

1. A portable study station enclosure comprising a rear wall section having a sound absorbing panel bounded at its perimeter by a structural channel, and a pair of parallel surfaces at opposite ends thereof:

a first side wall section constructed of a sound absorbing panel bounded at its perimeter by a structural channel, said first side wall section being arranged to abut one end surface of the rear wall section and extend forward therefrom;

a second side wall section constructed of a sound absorbing panel bounded at its perimeter by a structural channel, said second side wall section being arranged to abut the other end surface of the rear wall section and extend for-

ward therefrom;

first hinge means pivotally joining the first side wall section to the rear wall section in which the axis of pivotal rotation is offset from the abutting surfaces to enable the first side wall to be rotated into an adjacent and overlaying relationship with the rear wall section;

second hinge means pivotally joining the second side wall section to the rear wall section in which the axis of pivotal rotation is offset from the abutting surfaces a distance greater than in first hinge means to enable the second side wall to be rotated to overlay the first side when the latter is rotated to overlay the rear section; and

each of said first and second hinge means being comprised of a flat L-shaped member positioned perpendicular to the wall planes of the rear and associated side wall sections, and is permanently secured at one of its extensions to the channel bounding the rear wall section and pivotally attached at the other of its extensions to the channel bounding the associated side section.

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